Data Validation Checklist
Inorganic Analyses

Project:	35TH Avenue Superfund Site	Project No:	60430028; 1
Laboratory:	TestAmerica – Savannah, GA	Job ID.:	680-115692-1
Method:	SW-846 6010C (Arsenic and Lead)	Associated Samples:	Refer to **Attachment A** (Sample Summary)
Matrix:	Soil	Samples Collected:	08/10/2015 and 08/11/2015
Reviewer:	Kelly Brannigan, URS Group, Inc.	Date:	01/27/2016
Concurrence[1]:	Martha Meyers-Lee, URS Group, Inc.	Date:	02/02/2016

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample preservation requirements met? If pH of aqueous sample >2 and was not adjusted by laboratory prior to analysis, J- flag positive results and R- flag non-detect results.			✓		
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil/sediment samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Have any technical holding times, determined from date of collection to date of analysis, been exceeded? (Hg: ≤28 days, other metals: ≤6 months; Cr+6: ≤24 hours from extraction). If not, then J- flag positive results and R- flag non-detect aqueous results.		✓			
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?		✓		Resident Soil RSL with THQ = 1.0 (ORNL, November 2015) for target analytes: • Arsenic: 0.68 mg/Kg • Lead: 400 mg/Kg The MDL for lead, but not arsenic, was less than or equal to the respective above-mentioned RSL in all undiluted samples. A data gap does not exist in undiluted soil samples for arsenic, because the metal was detected above the RSL in all samples.	
8. Were method blank (MB) prepared at the appropriate frequency (one per 20 samples, batch, matrix, and level)?	✓				
9. Was a calibration blank (ICB/CCB) analyzed at the beginning, after every 10th sample, and at the end of each analytical run?	✓				
10. Were target analytes detected in the method and/or calibration blanks?		✓		Target analytes were not detected in the method blank. Calibration blanks were not evaluated.	

[1] Independent technical reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
11. Were target analytes reported in equipment/rinsate blanks analyses above the DL?			✓	According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank is not associated with this sampling event. Blank contamination will be evaluated based on method blank results.	
12. Were contaminants detected in samples below the blank contamination action level? o If blank result > RL, • Flag sample results ≤ RL with a U • Flag positive sample results > RL and ≤10x blank result , as J+ positive results o If blank result ≤RL, • Flag sample results ≤ RL with a U • Flag positive sample results > RL and ≤10x blank result , as J+ positive results			✓	Target analytes were not detected during the analysis of the method blank. An evaluation of the effect of blank contamination on soil sample results was based on method blank results, and not calibration blank results.	
13. Are there negative laboratory blank results with the absolute value ≤RL? If yes, then flag positive and non-detect sample results that are < 10x absolute blank value as J- and UJ, respectively.		✓			
14. Was a field duplicate analyzed?	✓			• 680-115692-2 (CV0511NN-CSD-6) is a duplicate of 680-115692-1 (CV0511NN-CS-6). • 680-115692-15 (CV0511HH-CSD-12) is a duplicate of 680-115692-14 (CV0511HH-CS-12).	
15. Was precision deemed acceptable as defined by the project plans?		✓		Refer to **Attachment B** (Field Duplicate Evaluation)	J
16. Were initial and continuing calibration standards analyzed at the lab/project-specified frequency for each instrument? o 6010C: • ICAL: Blank and one standard • ICV initially, and CCV every 10th sample and at the end of the analytical run • Lower Limit of Quantitation Check Sample (CRI) to be analyzed after establishing lower laboratory reporting limits and as needed o 7471A: • ICAL: Blank and five standards • ICV initially, and CCV every 10th sample and at the end of the analytical run o 7196A: • ICAL: Blank and minimum of five standards • ICV initially, and CCV every 10th sample (15th per Method) and at the end of the analytical run	✓			6010C: 08/19/2015 and 08/20/2015. One blank and one standard initially. ICV initially, and CCV every 10 samples and at end of run. CRI after initial calibration blank analysis.	
17. Were these results within lab/project specifications? o 6010C • ICV/CCV (Criteria: 90-110%R): ▪ If %R <75, then J- flag positive results and R-flag non-detects ▪ If 75-89%R, then J- flag positive results and UJ flag non-detects	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
▪ If 111-125%R, then J flag positive results ▪ If >125%R, then J+ flag positive results ▪ If >160%R, then R flag positive results • CRI (Method: 70-130%R, Laboratory: 50-150%R; Project: 50-150%R for Sb, Pb, and Tl, and 70-130%R for all other analytes): ▪ If CRI %R <50 (<30% for Sb, Pb, TL), then R flag results ≤ 2x RL and J flag positive results >2x RL ▪ If CRI %R 50-69% (30-49% for Sb, Pb, TL), then J- and UJ flag positive results <2x RL and ND, respectively ▪ If CRI %R >130% and ≤180% (>150%, but ≤200% for Sb, Pb, TL), then J+ flag positive results <2x RL ▪ If CRI %R >180% (>200% for Sb, Pb, TL), then R flag positive results o 7471A • ICV/CCV (Criteria: 80-120%R): ▪ If correlation coefficients <0.995, then J and UJ flag positive and non-detect results. ▪ If %R <65, then J- flag positive results and R-flag non-detects ▪ If 65-79%R, then J- flag positive results and UJ flag non-detects ▪ If 121-135%R, then J flag positive results ▪ If >135%R, then J+ flag positive results ▪ If >170%R, then R flag positive results • CRI (Method: Not required, Laboratory: 50-150%R, Project: 70-130%R): ▪ If CRI %R <50, then R flag results ≤ 2x RL and J flag positive results >2x RL ▪ If CRI %R 50-69%, then J- and UJ flag positive results <2x RL and ND, respectively ▪ If CRI %R >130% and ≤180%, then J+ flag positive results <2x RL ▪ If CRI %R >180%, then R flag positive result o 7196A: • ICV/CCV (Criteria: 90-110%R): ▪ If correlation coefficients <0.995, then J and UJ flag positive and non-detect results. ▪ If %R <65, then J- flag positive results and R-flag non-detects ▪ If 65-90%R, then J- flag positive results and UJ flag non-detects ▪ If 110-135%R, then J flag positive results ▪ If >135%R, then J+ flag positive results ▪ If >170%R, then R flag positive results					
18. Was the interference check sample (ICS) analyzed at the beginning of each ICP analytical run?	✓				
19. Are ICS recoveries within 80-120% of the true value? If not, qualify data	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
as follows when native Al, Fe, Ca, and Mg sample concentrations are equal to or greater than the ICS spiking level: o If >120%R (or >true value plus 2x CRQL), J+ flag positive results o If 50-79%R (or less than true value – 2x the CRQL), J- flag positive results and UJ flag non-detects o If <50%R, J- flag positive results and R-flag non-detects					
20. Was a LCS analyzed for each preparation batch (one per 20 samples per matrix and level)?	✓				
21. Did LCS recoveries meet method/laboratory/project (80-120%R) specifications? o Soil: • LCS result > Upper control limit (UCL): J+ flag positive results • LCS result < Lower control limit (LCL): J- flag positive results and UJ flag non-detects o Aqueous: • If <50%R, then J- and R flag positive and ND results, respectively • If 50-LCL%R, J- and UJ flag positive and ND results, respectively • >UCL: J+ Flag positive results • >150%R: R Flag results	✓				
22. Was the RPD between LCS and LCSD results within method/laboratory /project control limits (≤20%RPD)? If not, J and UJ flag positive and non-detect results, respectively.			✓	LCS only	
23. Was a Matrix Spike (MS) and Matrix Spike Duplicate (MSD) analyzed once per preparation batch?	✓			Batch 396577: 680-115692-1 (CV0511NN-CS-6), MS/MSD	
24. Is the MS and MSD parent sample a project-specific sample?	✓				
25. Was a post-digestion spike (PDS) analysis conducted when MS and/or MSD results did not meet control limits (Note: PDS is not required for silver, mercury, or hexavalent chromium)?			✓		
26. For all analytes with sample concentration < 4 x spike concentration, are spike recoveries within method (6010C: 75-125%R MS/MSD and 80-120%R PDS; 7471A: 80-120%R MS/MSD; 7196A: 85-115%R MS), laboratory (MS, MSD, and PDS: 75-125%R for 6010C/7471 (as applicable) and 80-120%R for 7196), and project (as noted below) specifications? *Only QC results for project samples are evaluated.* If not, o 6010C: • If MS %R <30 and PDS %R <75, then J- and R Flag positive and ND results, respectively • If MS %R <30 and PDS %R >75, then J flag positive and UJ flag non-detect results • If MS and MSD %R 30-74 and PDS%R <75, then J- flag positive and UJ flag non-detect results		✓		CV0511NN-CS-6 (680-115692-1): • Arsenic MS and MSD @ 59 and 171%R (75-125%R); PDS @84%R (80-120%R). The arsenic result is estimated (J-flagged) with an indiscriminant bias in sample CV0511NN-CS-6 and field duplicate CV0511NN-CSD-6 (680-115692-2) due to matrix interference. • Lead MS and MSD @ 106 and 140%R (75-125%R); PDS @79%R (80-120%R). Qualification of data is not warranted, as the MS recovery met control limits.	J

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
• If MS and MSD %R 30-74 and PDS%R ≥75, then J flag positive and UJ flag non-detect results • If MS, MSD, and PDS %R >125, J+ flag positive results • If MS and MSD %R >125 and PDS %R ≤125, then J flag positive results • If MS and MSD %R <30 and no PDS, then J- flag positive and R- flag non-detect results • If MS and MSD %R 30-74 and no PDS, then J- and UJ flag positive and non-detect results, respectively • If MS and MSD %R >125 and no PDS, then J+ flag positive results o 7471A/7196: • If MS %R <30, then J- and R Flag positive and ND results, respectively • If MS and MSD %R 30-LCL, then J- flag positive and UJ flag non-detect results • If MS and MSD %R >UCL, then J+ flag positive results					
27. For all analytes with sample concentration < 4 x spike concentration, were laboratory/project (≤20%RPD) criteria met for precision during the MS and MSD analysis? *Only QC results for project samples are evaluated.* o If RPD >20%, J and UJ flag positive and non-detect results.		✓		CV0511NN-CS-6 (680-115692-1): Arsenic @ 33%RPD (≤20%RPD). The arsenic result is estimated (J-flagged) in sample CV0511NN-CS-6 and field duplicate CV0511NN-CSD-6 (680-115692-2).	J
28. Was a serial dilution conducted for 6010C/EPA 200.7?	✓				
29. Is the serial dilution parent sample a project-specific sample?	✓			680-115692-1 (CV0511NN-CS-6)	
30. Is the percent difference between the serially diluted result and undiluted result less 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.* o If %D >10, J and UJ flag positive and non-detect results, respectively.		✓		CV0511NN-CS-6 (680-115692-1): Lead @ 17%D (≤10%D). The lead result is estimated (J-flagged) in sample CV0511NN-CS-6 and field duplicate CV0511NN-CSD-6 (680-115692-2).	J
31. Was a laboratory duplicate analyzed?		✓			
32. Was the lab duplicate analysis conducted on a project-specific sample?			✓		
33. Were criteria for laboratory/project precision met? *Only QC results for project samples are evaluated.* o If RPD values >20% (35% for soil/sediment) or absolute difference > RL (2x RL for soil/sediment), then J and UJ flag positive and non-detect results, respectively			✓		
34. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to **Attachment C** (Case Narrative)	
Comments: The data validation was conducted in accordance with the *Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1* (OTIE, October 2012). The data review process was modeled after the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review* (EPA 540-R-04-004, October 2004). Sample results have been qualified based on the results of the data review process (**Attachment D**). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment					

Data Validation Checklist (Continued)

DV Flag Definitions:

J-	The result is an estimated quantity, but the result may be biased low.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
UJ	The analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.

Acronyms:

%	Percent
%D	Percent difference
%R	Percent recovery
°C	Degrees Celsius
BCAL	Blank contamination action level
CCB	Continuing calibration blank
CCV	Continuing calibration verification
CLP	Contract laboratory program
COC	Chain-of-custody
CR+6	Hexavalent chromium
CRI	Lower Limit of Quantitation Check Sample
CRQL	Contract required quantitation limit
DL	Detection limit
DV	Data validation
EPA	Environmental Protection Agency
ICAL	Initial calibration
ICB	Initial calibration blank
ICP	Inductively coupled plasma
ICS	Interference check sample
ICV	Initial calibration verification
LCL	Lower control limit
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MDL	Method detection limit
MS	Matrix spike
MSD	Matrix spike duplicate
ND	Not detected
NFG	National Functional Guidelines
PDS	Post digestion spike
QAPP	Quality Assurance Project Plan
QC	Quality control
RL	Reporting limit
RPD	Relative percent difference
RSL	Regional Screening Level. Available: http://www.epa.gov/risk/regional-screening-table [February 2, 2016]
SW-846	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA. Available: http://www3.epa.gov/epawaste/hazard/testmethods/index.htm [February 2, 2016]
THQ	Target hazard quotients
UCL	Upper control limit

ATTACHMENT A

SAMPLE SUMMARY

COVER PAGE
METALS

Lab Name: TestAmerica Savannah Job Number: 680-115692-1

SDG No.: 680-115692-01

Project: 35th Avenue Superfund Site

Client Sample ID	Lab Sample ID
CV0511NN-CS-6	680-115692-1
CV0511NN-CSD-6	680-115692-2
CV0511NN-CS-12	680-115692-3
CV0511NN-CS-18	680-115692-4
CV0511NN-CS-24	680-115692-5
CV0511TT-CS-6	680-115692-6
CV0511TT-CS-12	680-115692-7
CV0511TT-CS-18	680-115692-8
CV0511TT-CS-24	680-115692-9
CV0511SS-CS-6	680-115692-10
CV0511SS-CS-12	680-115692-11
CV0511SS-CS-18	680-115692-12
CV0511SS-CS-24	680-115692-13
CV0511HHH-CS-6	680-115692-14
CV0511HHH-CSD-12	680-115692-15
CV0511HHH-CS-12	680-115692-16
CV0511HHH-CS-18	680-115692-17
CV0511HHH-CS-24	680-115692-18
CV0511BBB-CS-6	680-115692-19
CV0511BBB-CS-12	680-115692-20

Comments:

ATTACHMENT B

FIELD DUPLICATE EVALUATION

Evaluation of Field Duplicate Results **Attachment B**

Analyte	680-115692-1 CV0511NN-CS-6	RL	680-115692-2 CV0511NN-CSD-6	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Arsenic	23	2.2	25	1.9	mg/kg	10.25	**8**	NA	NA	None, RPD ≤ 50%
Lead	40	1.1	95	9.6	mg/kg	26.75	**81**	NA	NA	**J/UJ-flag, RPD > 50%**

Note: If the analyte was not detected, then the cell was left blank.

mg/kg - Milligrams per kilogram
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results **Attachment B**

Analyte	680-115692-16 CV0511HH-CS-12	RL	680-115692-15 CV0511HH-CSD-12	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Arsenic	19	2.1	13	2.0	mg/kg	10.25	**38**	NA	NA	None, RPD ≤ 50%
Lead	54	1.1	50	1.0	mg/kg	5.25	**8**	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

mg/kg - Milligrams per kilogram
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

ATTACHMENT C

CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-115692-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 8/15/2015 10:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.4º C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0511NN-CS-6 (680-115692-1), CV0511NN-CSD-6 (680-115692-2), CV0511NN-CS-12 (680-115692-3), CV0511NN-CS-18 (680-115692-4), CV0511NN-CS-24 (680-115692-5), CV0511TT-CS-6 (680-115692-6), CV0511TT-CS-12 (680-115692-7), CV0511TT-CS-18 (680-115692-8), CV0511TT-CS-24 (680-115692-9), CV0511SS-CS-6 (680-115692-10), CV0511SS-CS-12 (680-115692-11), CV0511SS-CS-18 (680-115692-12), CV0511SS-CS-24 (680-115692-13), CV0511HHH-CS-6 (680-115692-14), CV0511HHH-CSD-12 (680-115692-15), CV0511HHH-CS-12 (680-115692-16), CV0511HHH-CS-18 (680-115692-17), CV0511HHH-CS-24 (680-115692-18), CV0511BBB-CS-6 (680-115692-19) and CV0511BBB-CS-12 (680-115692-20) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D. The samples were prepared on 08/17/2015 and analyzed on 08/18/2015 and 08/19/2015.

Method(s) 8270D_LL_PAH: The following sample(s) required a dilution due to high targets and the nature of the sample matrix: CV0511NN-CS-6 (680-115692-1[10.0]), CV0511NN-CS-6 (680-115692-1[MS][10.0]), CV0511NN-CS-6 (680-115692-1[MSD][10.0]), CV0511NN-CSD-6 (680-115692-2[10.0]), CV0511TT-CS-6 (680-115692-6[10.0]), CV0511TT-CS-12 (680-115692-7[10.0]), CV0511TT-CS-18 (680-115692-8[10.0]), CV0511TT-CS-24 (680-115692-9[10.0]), CV0511SS-CS-6 (680-115692-10[10.0]), CV0511SS-CS-12 (680-115692-11[10.0]), CV0511SS-CS-18 (680-115692-12[10.0]), CV0511HHH-CS-6 (680-115692-14[10.0]), CV0511HHH-CSD-12 (680-115692-15[10.0]), CV0511HHH-CS-12 (680-115692-16[10.0]) and CV0511HHH-CS-18 (680-115692-17[10.0]). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D_LL_PAH: The following sample required a dilution due to the nature of the sample matrix: CV0511BBB-CS-12 (680-115692-20). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D_LL_PAH: The following sample was diluted due to the nature of the sample matrix : CV0511HHH-CS-24 (680-115692-18). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCV) analyzed in batch 680-396705 was outside the method criteria for the following analyte(s): Acenapthene, Anthracene and Benzo[b]fluoranthene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCV) analyzed in batch 680-396964 was outside the method criteria for the following analyte(s): Dibenz(a,h)anthracene, Fluoranthene, Indeno[1,2,3-cd]pyrene and o-Terphenyl . A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)

Samples CV0511NN-CS-6 (680-115692-1), CV0511NN-CSD-6 (680-115692-2), CV0511NN-CS-12 (680-115692-3), CV0511NN-CS-18 (680-115692-4), CV0511NN-CS-24 (680-115692-5), CV0511TT-CS-6 (680-115692-6), CV0511TT-CS-12 (680-115692-7), CV0511TT-CS-18 (680-115692-8), CV0511TT-CS-24 (680-115692-9), CV0511SS-CS-6 (680-115692-10), CV0511SS-CS-12 (680-115692-11), CV0511SS-CS-18 (680-115692-12), CV0511SS-CS-24 (680-115692-13), CV0511HHH-CS-6 (680-115692-14), CV0511HHH-CSD-12 (680-115692-15), CV0511HHH-CS-12 (680-115692-16), CV0511HHH-CS-18 (680-115692-17), CV0511HHH-CS-24 (680-115692-18), CV0511BBB-CS-6 (680-115692-19) and CV0511BBB-CS-12 (680-115692-20) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 08/17/2015 and analyzed on 08/20/2015.

Arsenic recovery is outside criteria low for the MS of sample CV0511NN-CS-6 (680-115692-1) in batch 680-397264.

Arsenic and Lead recoveries criteria high for the MSD of sample CV0511NN-CS-6 (680-115692-1) in batch 680-397264. Arsenic

exceeded the RPD limit.

Refer to the QC report for details.

Samples CV0511NN-CSD-6 (680-115692-2)[10X], CV0511SS-CS-12 (680-115692-11)[10X] and CV0511HHH-CS-24 (680-115692-18) [10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS/MOISTURE

Samples CV0511NN-CS-6 (680-115692-1), CV0511NN-CSD-6 (680-115692-2), CV0511NN-CS-12 (680-115692-3), CV0511NN-CS-18 (680-115692-4), CV0511NN-CS-24 (680-115692-5), CV0511TT-CS-6 (680-115692-6), CV0511TT-CS-12 (680-115692-7), CV0511TT-CS-18 (680-115692-8), CV0511TT-CS-24 (680-115692-9), CV0511SS-CS-6 (680-115692-10), CV0511SS-CS-12 (680-115692-11), CV0511SS-CS-18 (680-115692-12), CV0511SS-CS-24 (680-115692-13), CV0511HHH-CS-6 (680-115692-14), CV0511HHH-CSD-12 (680-115692-15), CV0511HHH-CS-12 (680-115692-16), CV0511HHH-CS-18 (680-115692-17), CV0511HHH-CS-24 (680-115692-18), CV0511BBB-CS-6 (680-115692-19) and CV0511BBB-CS-12 (680-115692-20) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP. The samples were analyzed on 08/18/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ATTACHMENT D

QUALIFIED SAMPLE RESULTS

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511NN-CS-6
Lab Sample ID: 680-115692-1
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 14:00
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 88.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Meth
7440-38-2	Arsenic	23	2.2	0.87	mg/Kg		~~F1~~ ~~F2~~ J	1	6010C
7439-92-1	Lead	40	1.1	0.37	mg/Kg		~~F1~~ J	1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511NN-CSD-6
Lab Sample ID: 680-115692-2
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 14:00
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 88.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	25	1.9	0.77	mg/Kg		J	1	6010C
7439-92-1	Lead	95	9.6	3.3	mg/Kg		J	10	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511NN-CS-12
Lab Sample ID: 680-115692-3
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 14:05
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 85.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	16	2.2	0.89	mg/Kg			1	6010C
7439-92-1	Lead	27	1.1	0.38	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511NN-CS-18
Lab Sample ID: 680-115692-4
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 14:10
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 81.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	19	2.1	0.85	mg/Kg			1	6010C
7439-92-1	Lead	59	1.1	0.36	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511NN-CS-24 | Lab Sample ID: 680-115692-5

Lab Name: TestAmerica Savannah | Job No.: 680-115692-1

SDG ID.: 680-115692-01

Matrix: Solid | Date Sampled: 08/10/2015 14:15

Reporting Basis DRY | Date Received: 08/15/2015 10:50

% Solids: 82.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	4.4	2.2	0.87	mg/Kg			1	6010C
7439-92-1	Lead	19	1.1	0.37	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511TT-CS-6
Lab Sample ID: 680-115692-6
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 14:45
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 88.7

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	14	2.0	0.79	mg/Kg			1	6010C
7439-92-1	Lead	46	0.99	0.34	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511TT-CS-12
Lab Sample ID: 680-115692-7
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 14:50
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 86.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	16	2.0	0.78	mg/Kg			1	6010C
7439-92-1	Lead	110	0.98	0.33	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511TT-CS-18 | Lab Sample ID: 680-115692-8

Lab Name: TestAmerica Savannah | Job No.: 680-115692-1

SDG ID.: 680-115692-01

Matrix: Solid | Date Sampled: 08/10/2015 14:55

Reporting Basis DRY | Date Received: 08/15/2015 10:50

% Solids: 82.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	12	2.0	0.81	mg/Kg			1	6010C
7439-92-1	Lead	63	1.0	0.34	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511TT-CS-24
Lab Sample ID: 680-115692-9
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 15:00
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 79.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	12	2.3	0.93	mg/Kg			1	6010C
7439-92-1	Lead	80	1.2	0.40	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511SS-CS-6
Lab Sample ID: 680-115692-10
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 15:35
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 86.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	16	1.9	0.78	mg/Kg			1	6010C
7439-92-1	Lead	73	0.97	0.33	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511SS-CS-12
Lab Sample ID: 680-115692-11
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 15:40
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 86.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	15	2.0	0.81	mg/Kg			1	6010C
7439-92-1	Lead	130	10	3.4	mg/Kg			10	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511SS-CS-18
Lab Sample ID: 680-115692-12
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 15:45
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 84.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	17	2.0	0.81	mg/Kg			1	6010C
7439-92-1	Lead	130	1.0	0.35	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511SS-CS-24
Lab Sample ID: 680-115692-13
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/10/2015 15:50
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 81.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Meth
7440-38-2	Arsenic	15	2.2	0.86	mg/Kg			1	6010C
7439-92-1	Lead	40	1.1	0.37	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511HHH-CS-6
Lab Sample ID: 680-115692-14
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/11/2015 08:40
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 90.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Meth
7440-38-2	Arsenic	11	1.9	0.76	mg/Kg			1	6010C
7439-92-1	Lead	89	0.94	0.32	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511HHH-CSD-12
Lab Sample ID: 680-115692-15
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/11/2015 08:45
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 85.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	13	2.0	0.81	mg/Kg			1	6010C
7439-92-1	Lead	50	1.0	0.35	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511HHH-CS-12
Lab Sample ID: 680-115692-16
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/11/2015 08:45
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 85.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	19	2.1	0.84	mg/Kg			1	6010C
7439-92-1	Lead	54	1.1	0.36	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511HHH-CS-18
Lab Sample ID: 680-115692-17
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/11/2015 08:50
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 84.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	14	2.2	0.87	mg/Kg			1	6010C
7439-92-1	Lead	54	1.1	0.37	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511HHH-CS-24
Lab Sample ID: 680-115692-18
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/11/2015 08:55
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 82.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	19	2.2	0.88	mg/Kg			1	6010C
7439-92-1	Lead	79	11	3.8	mg/Kg			10	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511BBB-CS-6
Lab Sample ID: 680-115692-19
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/11/2015 09:30
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 95.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	2.7	1.8	0.74	mg/Kg			1	6010C
7439-92-1	Lead	11	0.92	0.31	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0511BBB-CS-12
Lab Sample ID: 680-115692-20
Lab Name: TestAmerica Savannah
Job No.: 680-115692-1
SDG ID.: 680-115692-01
Matrix: Solid
Date Sampled: 08/11/2015 09:35
Reporting Basis DRY
Date Received: 08/15/2015 10:50
% Solids: 87.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	15	2.1	0.84	mg/Kg			1	6010C
7439-92-1	Lead	100	1.0	0.36	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2013)